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METHOD AND APPARATUS FOR SEGMENTATION AND REASSEMBLY OF DATA PACKETS IN A COMMUNICATION SWITCH

Abstract of the Invention

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A method and apparatus for segmenting and forwarding data packets received in a communication switch is presented. The method begins by receiving a packet that includes a destination that determines forwarding parameters. As the packet is being

10   received, segmentation cells are created from portions of the packet received where each segmentation cell is provided to a switching fabric as soon as creation of the segmentation cell is completed. When an end portion of the packet is received, verification of proper receipt of the packet is performed. When it is determined that the packet has been received successfully, a verification data set is generated based on

15   segmentation cells that have been utilized to forward the packet. The verification data set is then included in a final segmentation cell that is provided to the switching fabric. Such a verification data set can then be used by an egress line card that receives the segmentation cells to verify proper receipt of the segmentation cells. If it is determined that the packet has not been successfully received, a purging data set is generated instead

20   of the verification data set. Such a purging data set is then included in the final segmentation cell that is provided to the switching fabric, where the purging data set preferably causes any egress line card to purge the corrupted packet rather than forwarding it.

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